

# DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER) BOARD AND CODE ADMINISTRATION DIVISION

## NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY PRODUCT CONTROL SECTION 11805 SW 26 Street, Room 208

Miami, Florida 33175-2474 T (786) 315-2590 F (786) 315-2599

www.miamidade.gov/economy

Greenheck Fan Corporation P.O. Box 410 Schofield, WI 54476

Scope:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code. This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

#### DESCRIPTION: Model AFJ-601D Acoustical Aluminum Louver

**APPROVAL DOCUMENT:** Drawing No. **AFJ-601D**, titled "AFJ-601D NOA Drawings", sheets 1 through 15 of 15, dated 08/08/2014, prepared by Greenheck Fan Corporation, signed and sealed by Chander P. Nangia, P.E., bearing the Miami-Dade County Product Control approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official. This NOA consists of this page 1 and evidence page E-1, as well as approval document mentioned above. The submitted documentation was reviewed by **Carlos M. Utrera, P.E.** 



Ano 11/07/2014

NOA No. 14-0902.07 Expiration Date: November 20, 2019 Approval Date: November 20, 2014 Page 1

## NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

## A. DRAWINGS

1. Drawing No. **AFJ-601D**, titled "AFJ-601D NOA Drawings", sheets 1 through 15 of 15, dated 08/08/2014, prepared by Greenheck Fan Corporation, signed and sealed by Chander P. Nangia, P.E.

## B. TESTS

- 1. Test report on 1) Uniform Static Air Pressure Test per FBC, TAS 202-94
  - 2) Large Missile Impact Test per FBC, TAS 201-94,
  - 3) Cyclic Wind Pressure Test per FBC, TAS 203-94,

along with marked-up drawings and installation diagram of Model AFJ-601D aluminum louvers, prepared by Architectural Testing, Inc., Test Report No. **D7317.01-602-18**, dated 06/26/2014, signed and sealed by Shawn G. Collins, P.E.

## C. CALCULATIONS

1. Structural and anchors calculations prepared by Chander P. Nangia, P.E., dated 08/08/2009, signed and sealed by Chander P. Nangia, P.E.

## D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

## E. MATERIAL CERTIFICATIONS

1. None.

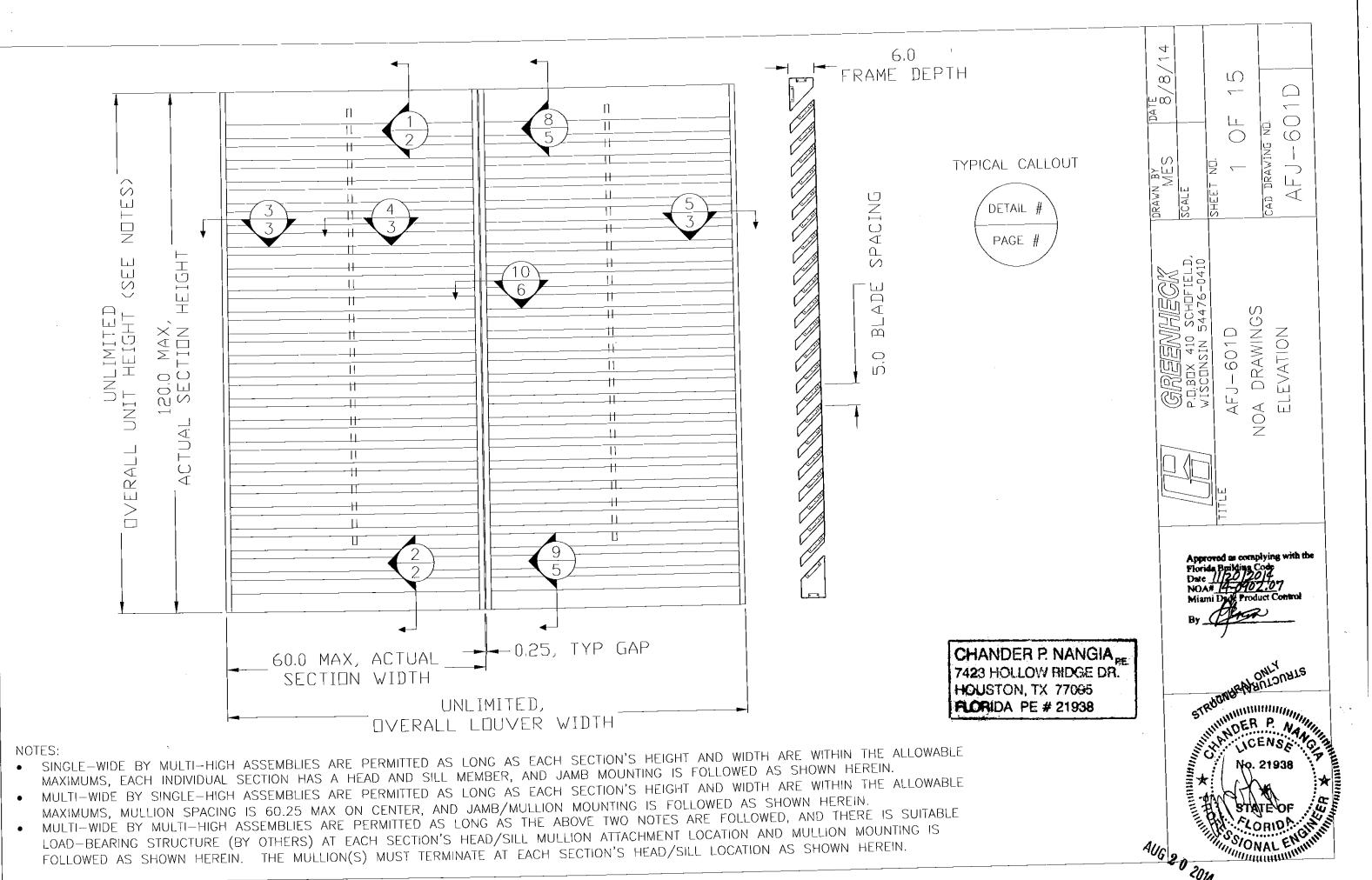
## F. STATEMENTS

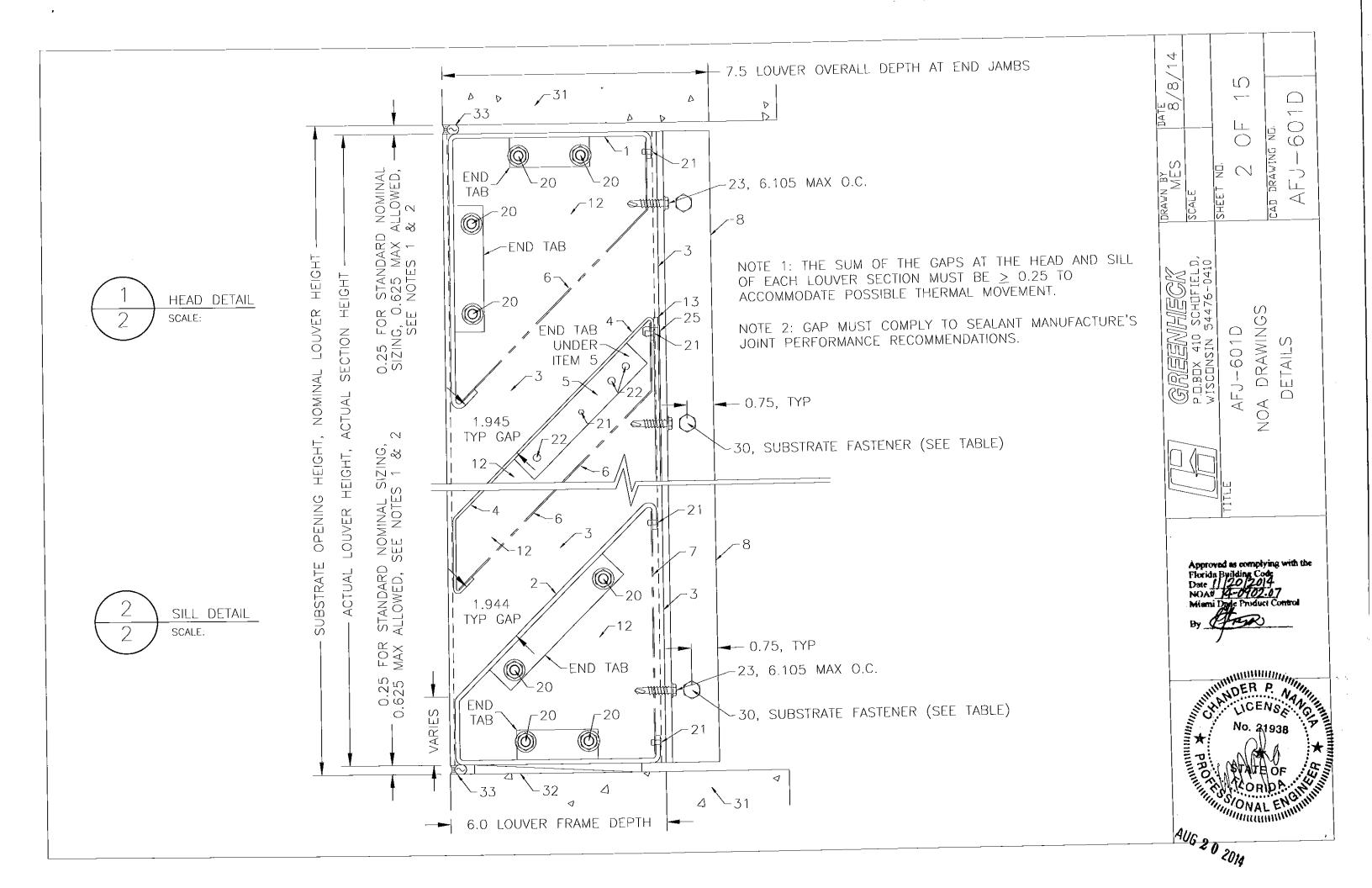
1. Statement letter of code compliance to 2010 FBC and no financial interest issued by Chander P. Nangia, P.E., dated 08/25/2014, signed and sealed by Chander P. Nangia, P.E.

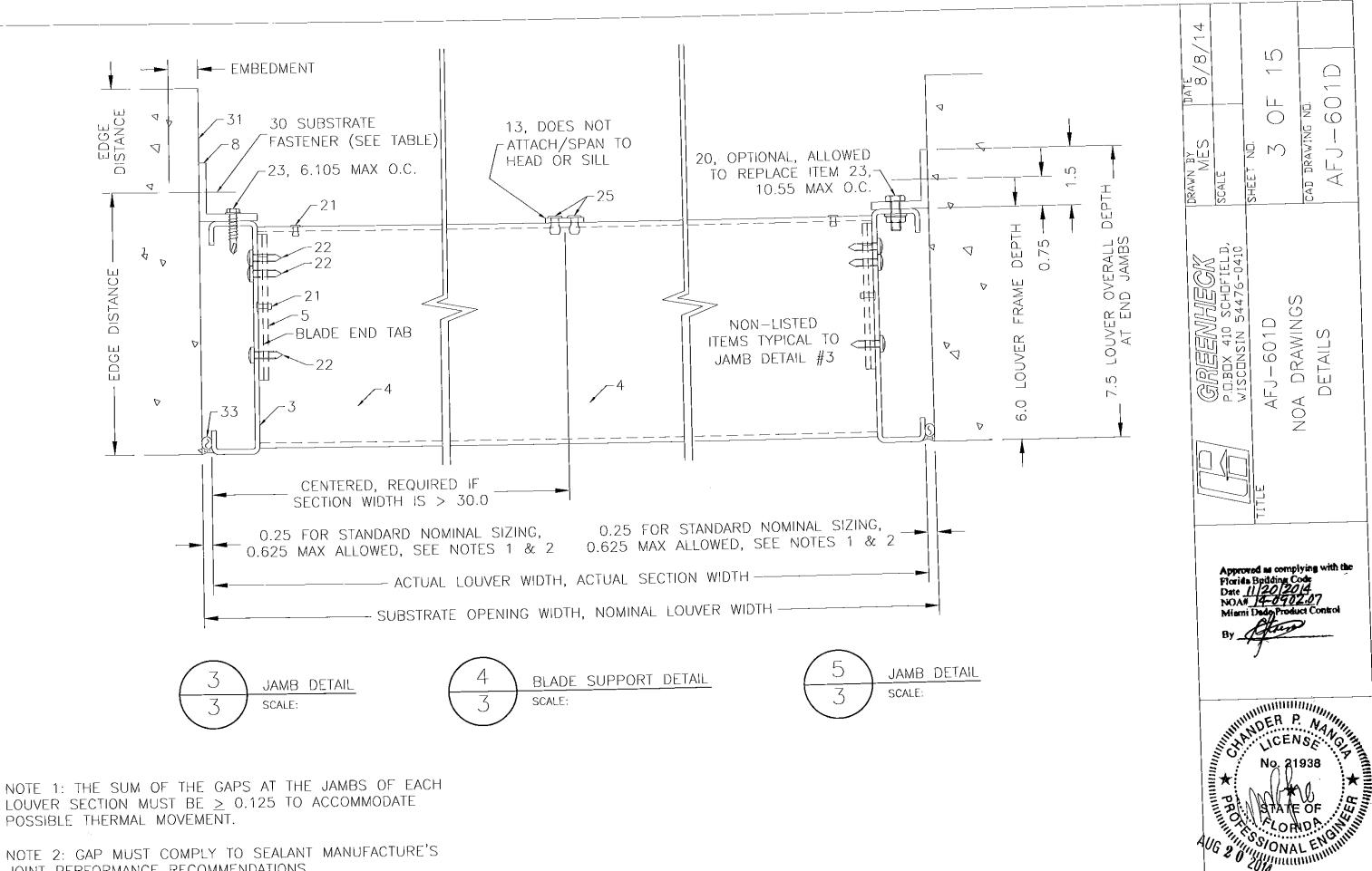
Carlos M. Utrera, P.E. Product Control Examiner

NOA No. 14-0902.07

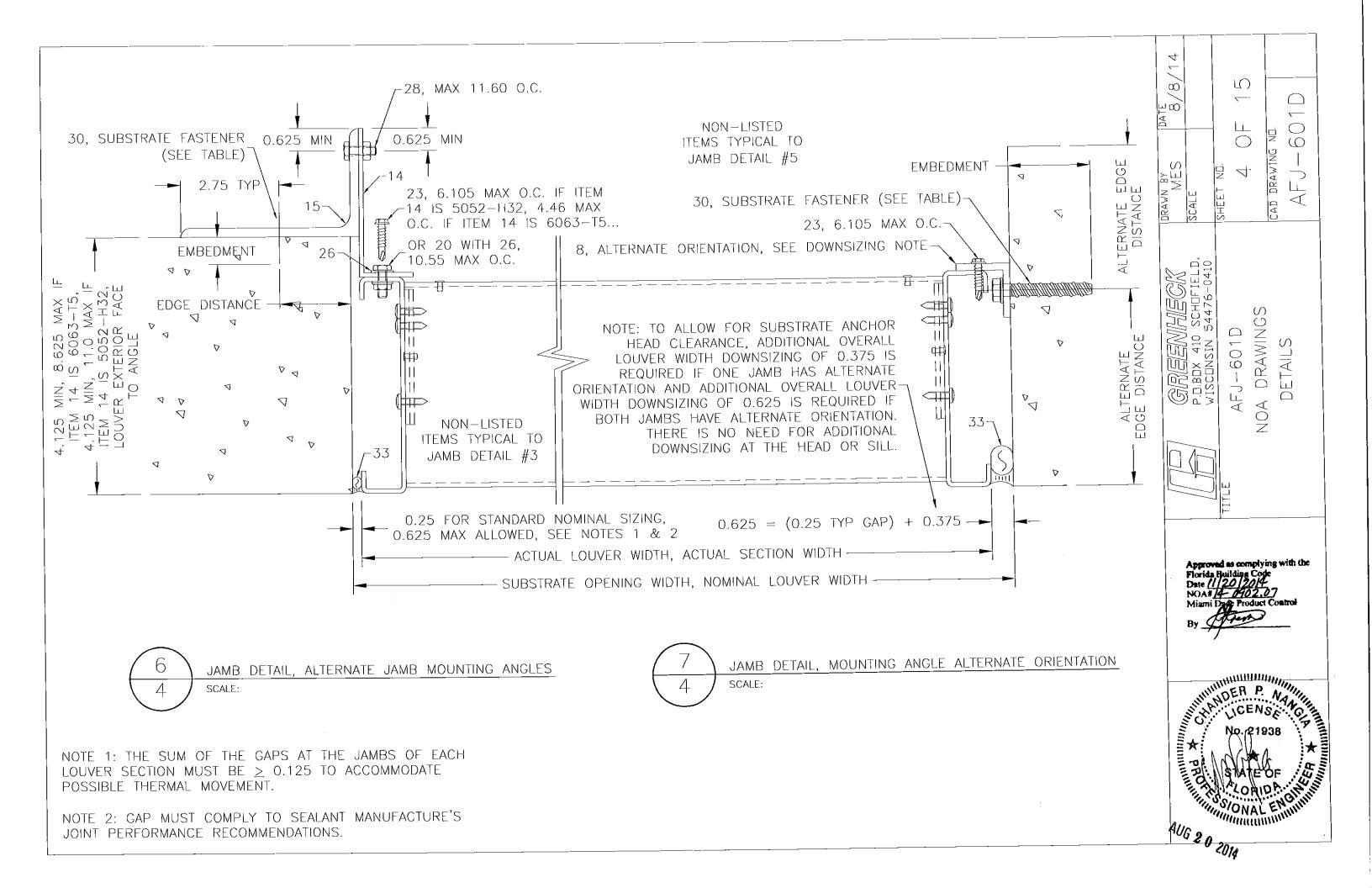
Expiration Date: November 20, 2019 Approval Date: November 20, 2014

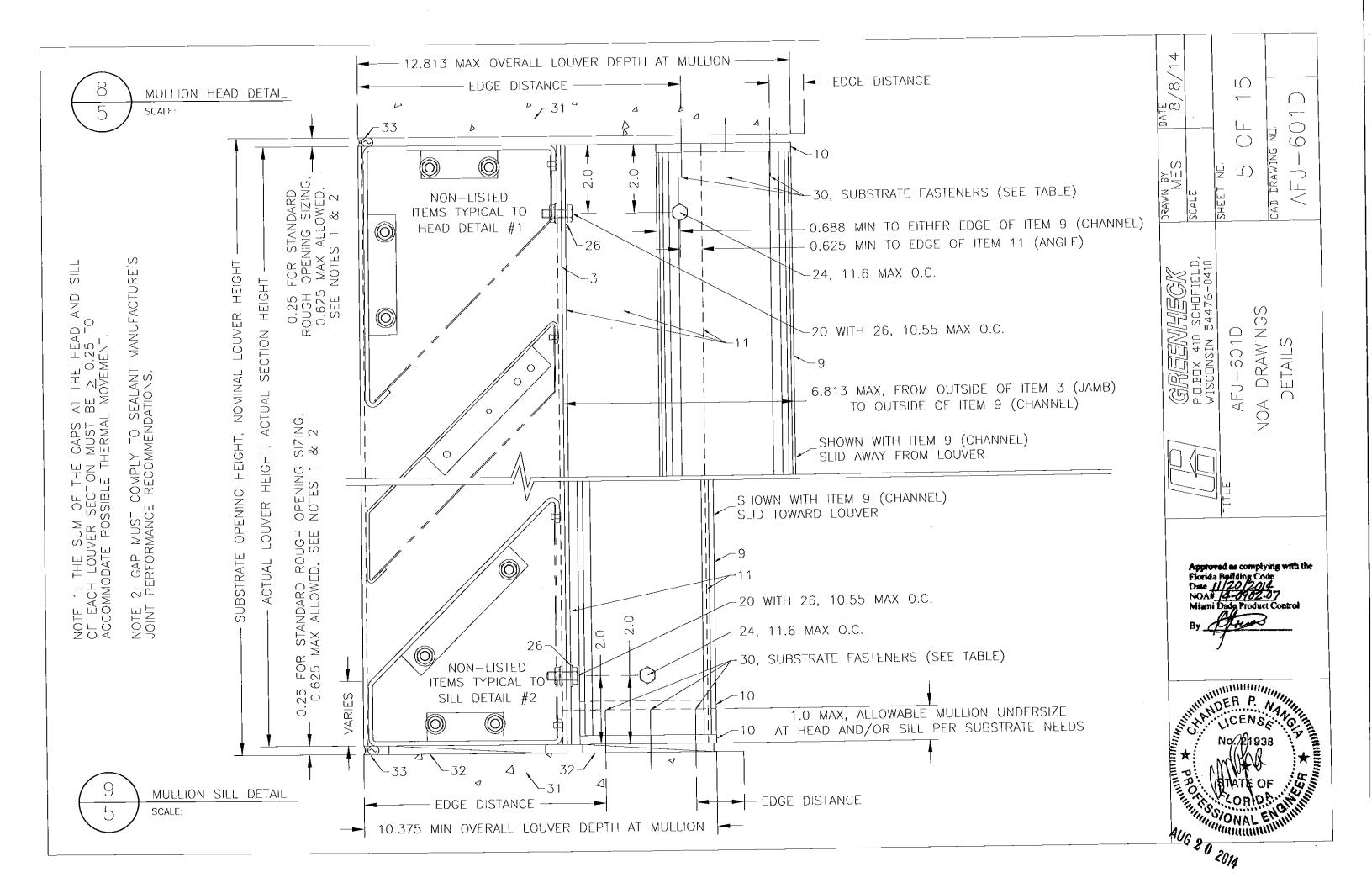


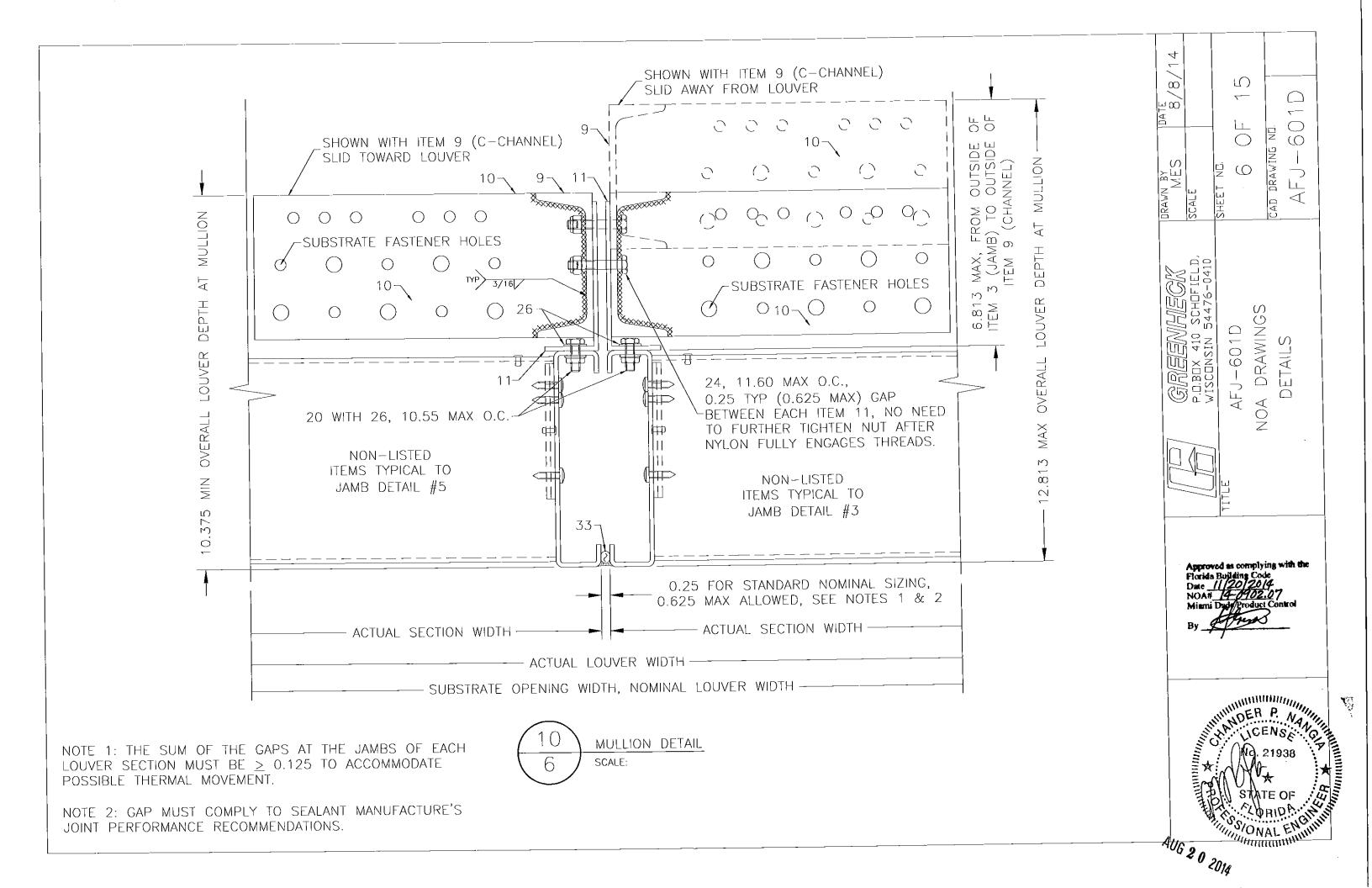


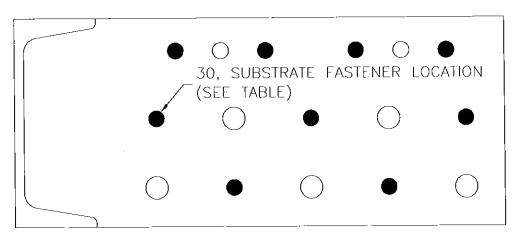


NOTE 2: GAP MUST COMPLY TO SEALANT MANUFACTURE'S JOINT PERFORMANCE RECOMMENDATIONS.



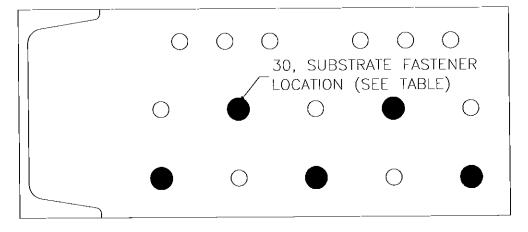






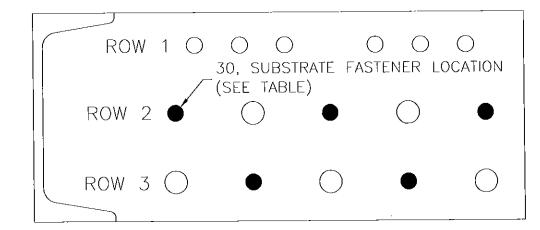
1/4 FASTENERS INTO: WOOD, GROUT FILLED CMU, CONCRETE

USE SHOWN FASTENER PATTERN.



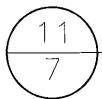
3/8 FASTENERS INTO: WOOD, GROUT FILLED CMU, CONCRETE

USE SHOWN FASTENER PATTERN.



1/4 FASTENERS INTO: STEEL STUD, STRUCTURAL STEEL, ALUMINUM

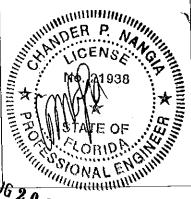
NOTE: ANY Ø0.3125 HOLE CAN BE USED FOR SUBSTRATE ANCHORS AS LONG AS A MINIMUM OF TWO ROWS HAVE FASTENERS, AND A MINIMUM OF TWO FASTENERS IN EACH USED ROW.

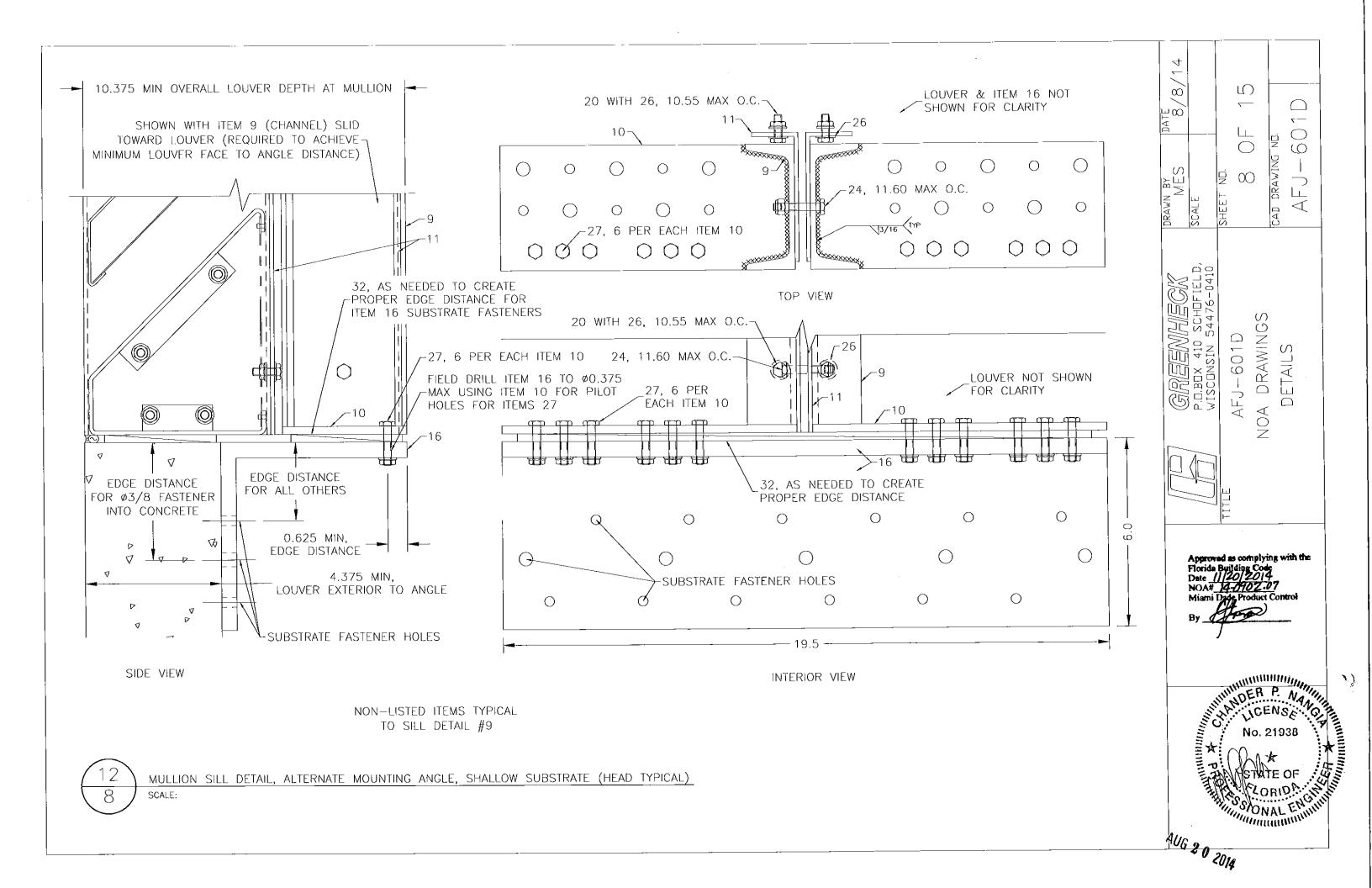


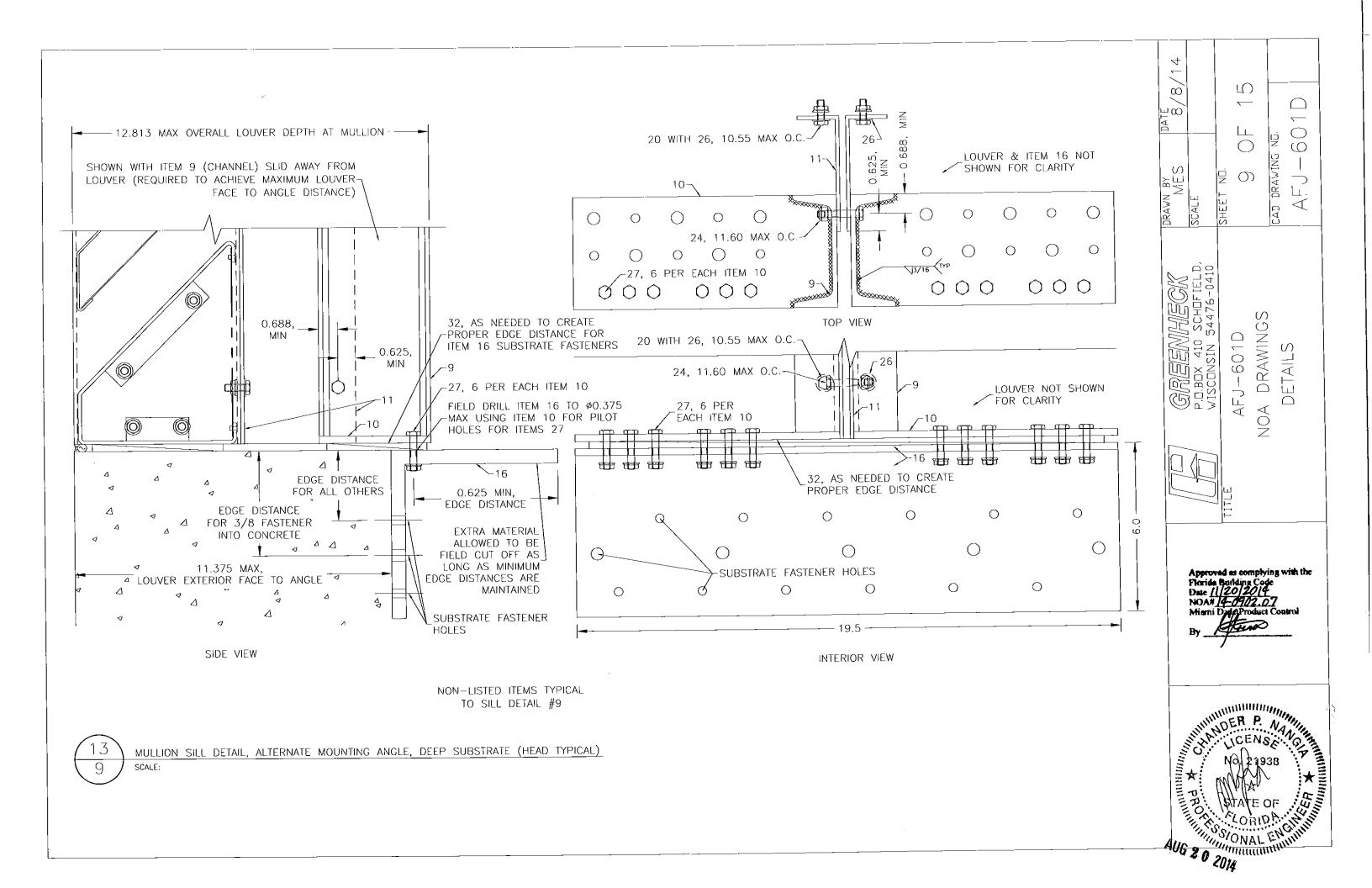
MULLION END PLATE SUBSTRATE FASTENER LOCATIONS

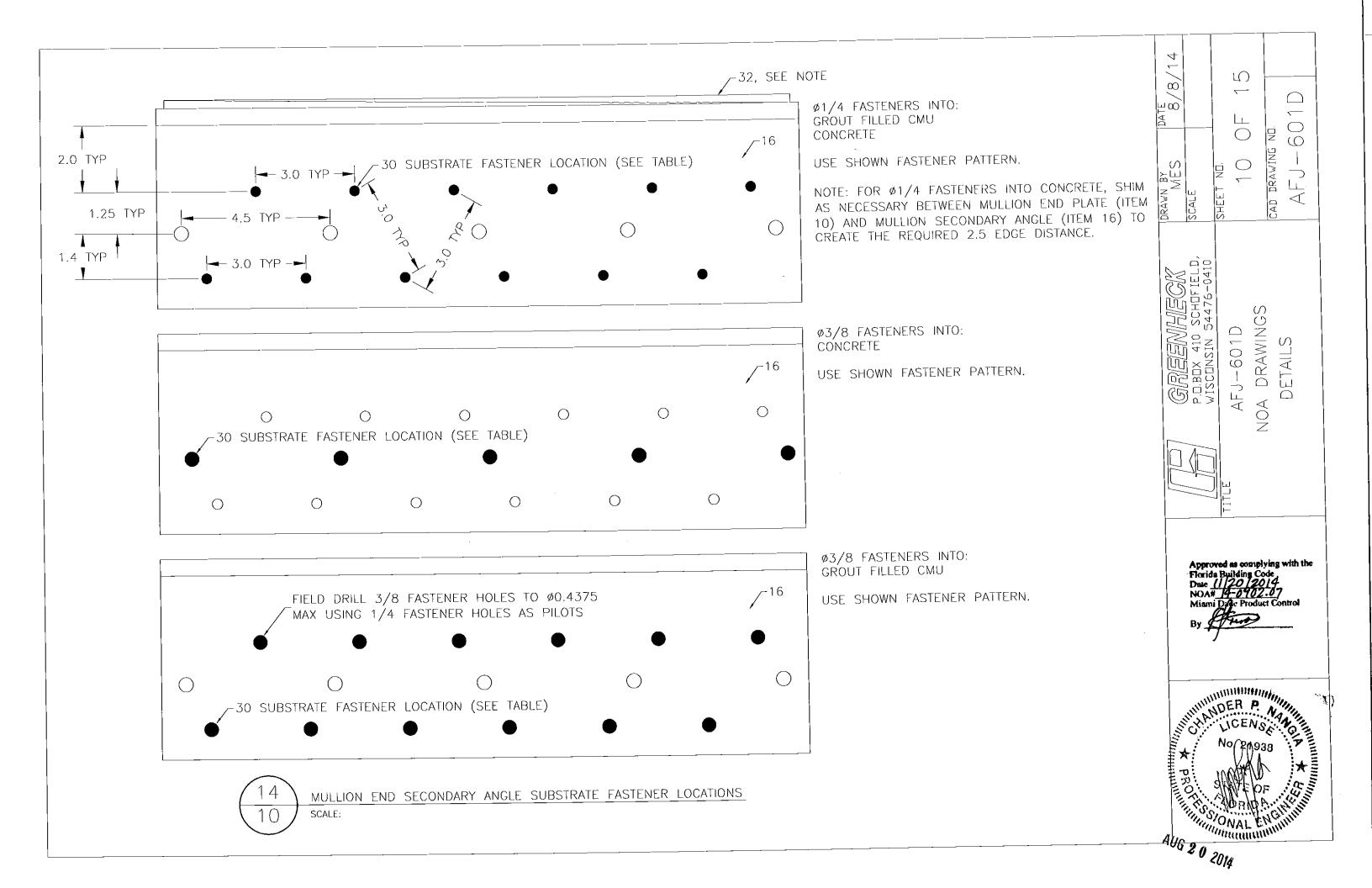
SCALE:

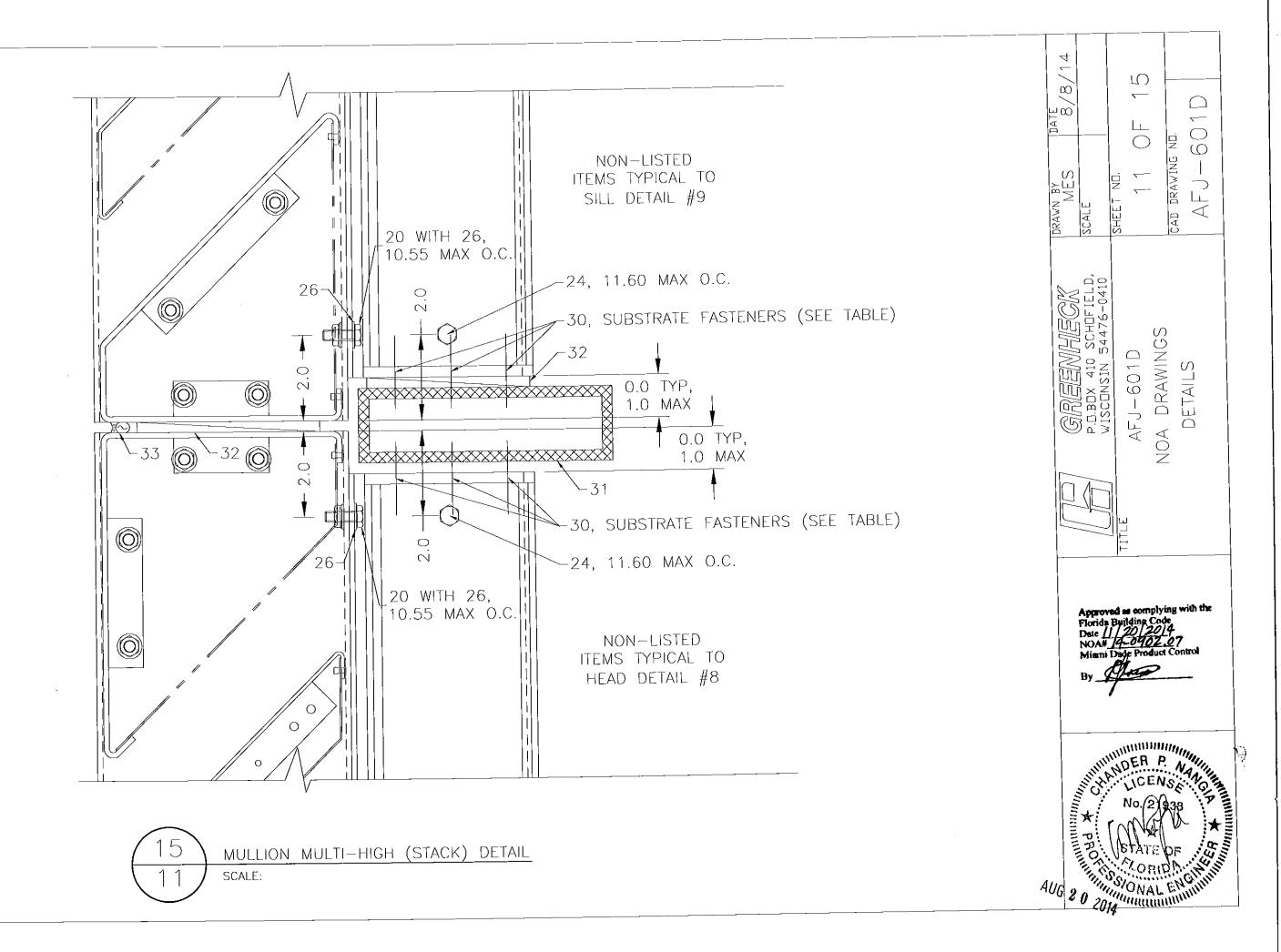


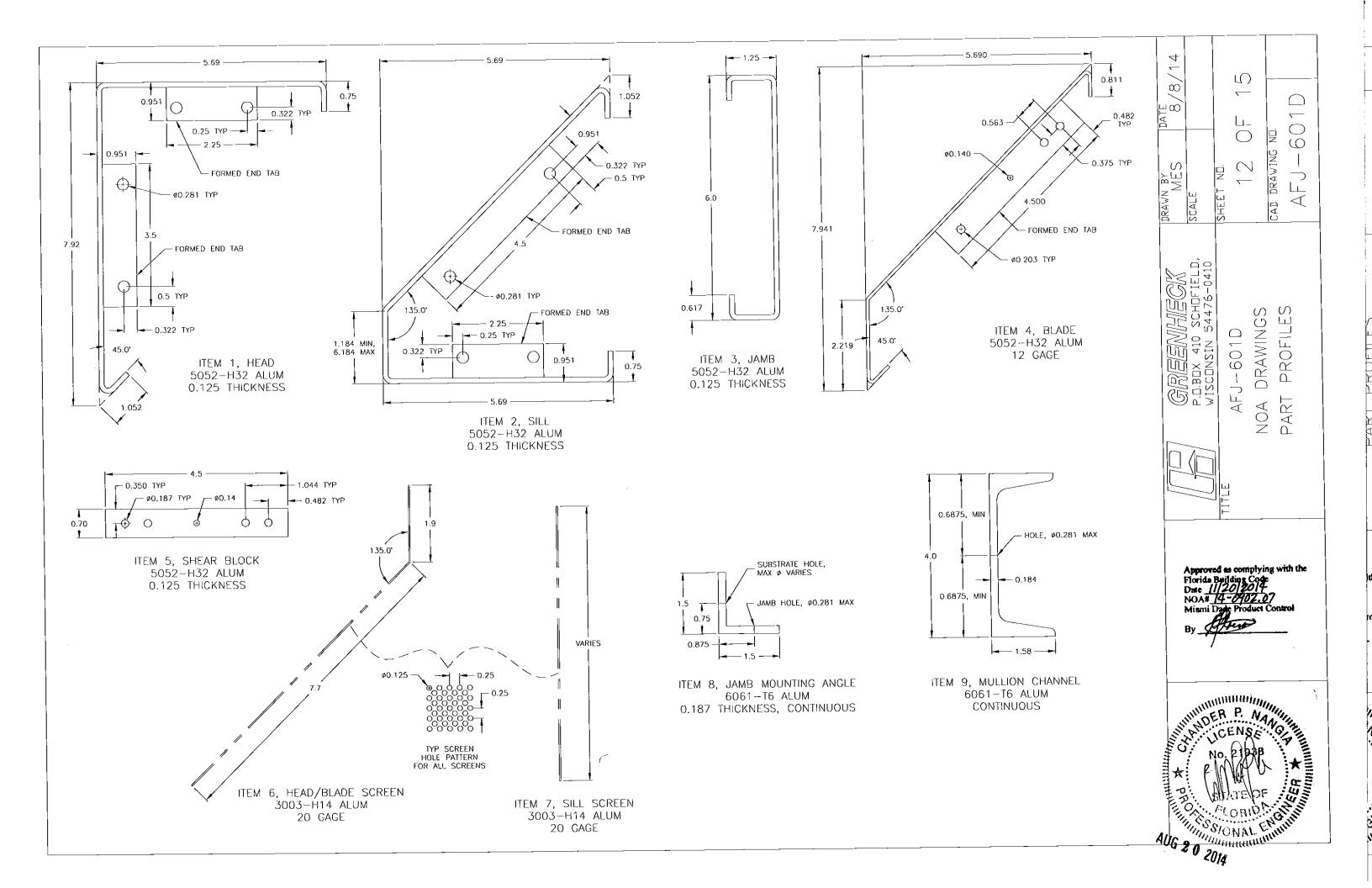








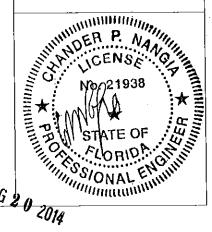




TEM	DESCRIPTION	MATERIAL	INTERNAL ID #	NDTES				
1	LOUVER HEAD, 0.125 FORMED SHEET	5052-H32 ALUM	100175					
2	LOUVER SILL, 0.125 FORMED SHEET	5052-H32 ALUM	100175					
3	LOUVER JAMB, 0.125 FORMED SHEET	5052-H32 ALUM	100175					
1	LOUVER BLADE, 0.081 FORMED SHEET	5052-H32 ALUM	100173	5.0 SPACING				
5	BLADE SHEAR BLUCK, 0.125×0.7×4.5	5052-H32 ALUM	100175					
<u></u>	HEAD/BLADE SCREEN, 0.032 PERFORATED SHEET	3003-H14 ALUM	100163	· · · · · · · · · · · · · · · · · · ·				
7	SILL SCREEN, 0.032 PERFORATED SHEET	3003-H14 ALUM	100163					
3	JAMB MOUNTING ANGLE, 0.187×1.5×1.5, CONTINUOUS	6061-TG ALUM	130323	ALLOWED TO BE REPLACED BY ITEM 14 AND THEN ITEM 15 MUST ALSO BE USED				
	MULLION CHANNEL, 0.184×1.58×4, CONTINUOUS	6061-T6 ALUM	125749					
	MULLION END PLATE, 0.25×4×9.5	5052-H32 ALUM	100177					
	MULLION ANGLE, 0.125×1.5×4.125, CONTINUOUS	6063-T5 ALUM	125754					
)	INSULATION, FILLS CAVITIES, 15 SHEET(S)	FIBERGLASS	220138					
3	BLADE SUPPORT, 0.125×1.0, CONTINUOUS	6063-T5 ALUM	130370	USED DNLY IF SECTION WIDTH IS > 30.0				
		6063-T5 ALUM DR	125754 DR	OPTIONAL, ALLOWED TO REPLACE ITEM 8 AND				
14	JAMB EXTENDED ANGLE, 0.125×1.5×VARIES, CONTINUOUS	5052-H32 ALUM	100175	THEN ITEM 15 MUST ALSO BE USED				
5	JAMB SECONDARY ANGLE, 0.25×3×5, CONTINUOUS	6005-T5 ALUM DR 6061-T6 ALUM	125990	OPTIONAL, USED ONLY IF ITEM 14 IS USED				
5	MULLION SECONDARY ANGLE, 0.5×6×6, 19.5 LONG	6061-T6 ALUM	125747	OPTIONAL				
	-	_	_					
0	1/4-20×3/4 MIN. BOLT & FLANGE NUT	300 SERIES SS BOLT 300 SERIES SS NUT	415869 415575	USE ITEM 26 UNDER NUT IF A NON-FLANGED NUT IS USED				
1	1/8 DIA. MIN. RIVET	5052 ALUM	415194	300/400 SERIES SS ALLOWED				
2	#12~14×3/4 MIN. SCREW	300 SERIES SS	416110					
3	1/4-20×3/4 MIN. SCREW	COATED STEEL	416581	ANTI-CORROSIVE, 300/400 SERIES SS ALLOWED				
4	1/4-20×1.25 MIN. BOLT & NYLON LOCK NUT	300 SERIES SS BOLT 300 SERIES SS NUT	416103 416036	NON-NYLON TYPE LOCK NUT ALLOWED				
5	3/16 DIA. MIN. RIVET	5052 ALUM	415224	300/400 SERIES SS ALLOWED				
6	0.049×5/8 D.D. MIN. WASHER	300 SERIES SS	415836					
_	1/4-20×1.25 MIN. BOLT & NUT	300 SERIES SS BOLT	416103					
7	1/4-20x1.25 MIN. BULT & NUT	300 SERIES SS NUT	415575					
8	1/4-20x3/4 MIN. BOLT & NUT	300 SERIES SS BULT	415869	·				
		300 SERIES SS NUT	415575					
_	SUBSTRATE FASTENER, 1/4 ELCO AGGRE-GATOR	300 SERIES SS	_					
	SUBSTRATE FASTENER, 1/4 ELCO AGGRE-GATOR SUBSTRATE FASTENER, 3/8 POWERS WEDGE BOLT	410 SS	-	BY OTHERS, MINIMUM OF ONE TYPE REQUIRED, SEE				
	SUBSTRATE FASTENER, 3/8 FUWERS WEDGE BUET	410 SS BOLT &						
30	SUBSTRATE FASTENER, 1/4-20 BOLT & NUT	ANY SERIES SS NUT	NA					
	SUBSTRATE FASTENER, 1/4-20 SCREW	410 SS	-	ANCHOR CHART FOR ADDITIONAL DETAILS				
	SUBSTRATE FASTENER, 1/4 LAG SCREW	PLATED STEEL						
	SUBSTRATE FASTENER, 3/8 LAG SCREW	PLATED STEEL	†					
	SUBSTRATE, GROUT FILLED CMU	GROUT FILLED CMU	<del> </del>					
	SUBSTRATE, CONCRETE	CONCRETE	+					
	SUBSTRATE, STEEL STUD	STEEL	_	BY OTHERS, MINIMUM OF ONE TYPE REQUIRED, SEE ANCHOR CHART FOR ADDITIONAL DETAILS				
31	SUBSTRATE, STEEL STOD	STEEL	NA NA					
	SUBSTRATE, WOOD	WDOD 21EEF	$\dashv$	The state of the s				
	SUBSTRATE, ALUMINUM	ALUMINUM	-					
		<del>-</del>	NA NA	BY DTHERS, AS NEEDED				
32	SHIM, NON-COMPRESSIBLE	VARIOUS						
33	SEALANT & BACKER ROD	VARIOUS	NA	BY OTHERS, OPTIONAL				

8/8/14  $\Box$ 09 CAD DRAWING NO. AWN BT MES 4 AFU ITEM DESCRIPTIONS (GREEN/INE) P.O.BOX 410 SCHI DRAWINGS AFJ-601D MON

Approved as complying with the Florida Building Code Date 1/20/20/4 NOA# 14-0902.07 Miami Dada Product Control By



	ANCHOR CHART													
ITEM	ITEM DESCRIPTION	ITEM 31, SUBSTRATE			ITEM 30, SUBSTRATE FASTENER									
IIEWI	ITEM DESCRIPTION	TYPE	MAT'L (MIN)	THICKNESS (MIN)	TYPE	MAT'L	DIA.	LENGTH (MIN)	SPACING (MAX)	# REQUIRED (MIN)	EDGE (MIN)	EMBED. (MIN)	WASHER (MIN)	HOLE (MAX)
8	JAMB MOUNTNIG ANGLE	WOOD	G OF 0.42	3.0	LAG SCREW	STEEL	1/4 3/8	3	6.105 9.79	VARIES	1.5	2-13/16	NONE	5/16 7/16
		STEEL STUD STRUCTURAL STEEL	A36	16 GA 12 GA	BOLT/SCREW	410 SS	1/4-20	3/4	5.04 6.105	VARIES	0.6	0.0598 0.1046	NONE	5/16
		ALUMINUM	6063-T5	0.125	SCREW BOLT	410 SS	1/4-20	3/4	4.67 6.105	VARIES	0.5	1/8	NONE 19/32 AT NUT	9/32
		CONCRETE	2,220 PSI 2,500 PSI	4.0	ELCO AGGRE-GATOR POWERS WEDGE-BOLT	300 SS 410 SS	<del>-, .</del>	2 2- 1/2	5.8 10.5	VARIES	1.5 2.0	1- 3/4 2- 1/8	NONE	5/16 7/16
		GROUT FILLED CMU	4,747 PSI 2,500 PSI	6 IN. BLOCK	ELCO AGGRE-GATOR POWERS WEDGE-BOLT	300 SS 410 SS	1/4 3/8	2- <u>1/4</u> NOT	6.105 ALLOWED	VARIESNA	2.0 NA	2 NA	NONE NA	5/16 NA
15	(OPTIONAL) JAMB SECONDARY ANGLE	CONCRETE	2,220 PSI 2,500 PSI	4.0	ELCO AGGRE-GATOR POWERS WEDGE-BOLT	300 SS 410 SS	1/4 3/8	2 2- 3/8	5.17 10.5	VARIES	2.0	1- 3/4 2- 1/8	NONE	5/16 7/16
		GROUT FILLED CMU	4,747 PSI 2,500 PSI	6 IN. BLOCK	ELCO AGGRE-GATOR POWERS WEDGE-BOLT	300 SS 410 SS	1/4 3/8	2- 1/4 2- 3/4	5.72 9.91	VARIES	2.0	2 2- 1/2	NONE	5/16 7/16
10	MULLION END PLATE	WOOD	G OF 0.42	3.0	LAG SCREW	STEEL	1/4 3/8	3	3.0	9 5	1.5	2- 1/2	NONE	5/16 7/16
		STEEL STUD STRUCTURAL STEEL	A36	16 GA 12 GA	BOLT/SCREW	410 SS	1/4-20	1	3.0	5	0.6	0.0598 0.1046	NONE	5/16
		ALUMINUM	6063-T5	0.125	BOLT/SCREW	410 SS	1/4-20	1	3.0	5	0.5	1/8	NONE	5/16
		CONCRETE	2,220 PSI 2,500 PSI	4.0	ELCO AGGRE-GATOR POWERS WEDGE-BOLT	300 SS 410 SS		2 2- 3/4	3.0	5	3.0 2.25	1- 3/8 2- 1/8	NONE	5/16 7/16
		GROUT FILLED CMU	4,747 PSI 2,500 PSI	6 IN. BLOCK	ELCO AGGRE-GATOR POWERS WEDGE-BOLT	300 SS 410 SS		2- 1/2 NOT	3.0 ALLOWED	5 NA	4.0 NA	2 NA	NONE NA	5/16 NA
16	(OPTIONAL) MULLION SECONDARY ANGLE	CONCRETE	2,220 PSI 2,500 PSI	4.0	ELCO AGGRE-GATOR POWERS WEDGE-BOLT	300 SS 410 SS	<del></del>	2- 1/4 2- 5/8	3.0 4.5		2.5	1- 3/4 2- 1/8	NONE	5/16 7/16
		GROUT FILLED CMU	4,747 PSI 2,500 PSI	6 IN. BLOCK	ELCO AGGRE-GATOR POWERS WEDGE-BOLT	300 SS 410 SS		2- 1/2 3	3.0	12	2.0	2 2- 1/2	NONE	5/16 7/16

#### **GENERAL NOTES:**

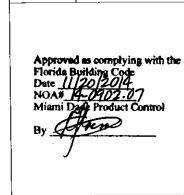
- 1. IT SHALL BE THE RESPONSIBILITY OF THE PERMIT HOLDER TO VERIFY THE STRUCTURAL INTEGRITY OF THE EXISTING STRUCTURE TO SUPPORT THE LOADS IMPOSED BY THE LOUVER ASSEMBLY.
- 2. THIS LOUVER HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH MIAMI-DADE COUNTY PROTOCOLS [AND QUALIFIED IN ACCORDANCE WITH THE CURRENT FLORIDA BUILDING CODE (FBC) AND TEST PROTOCOLS/STANDARDS]:
- TAS-201 (LARGE MISSILE IMPACT TEST)
- TAS-202 (UNIFORM STATIC WIND PRESSURE TEST)
- TAS-203 (UNIFORM CYCLIC WIND PRESSURE TEST)
- 3. THIS LOUVER HAS BEEN DESIGNED, TESTED, AND APPROVED TO WITHSTAND DESIGN PRESSURES OF UP TO AND INCLUDING  $\pm /-150$  PSF.
- 4. THE LOUVER IS NOT DESIGNED TO PREVENT WIND DRIVEN RAIN FROM PENETRATING THE SPACE BEHIND THE LOUVER. THE LOUVER SHALL BE INSTALLED IN A LOCATION WHERE THE SPACE BEHIND THE LOUVER IS DESIGNED TO DRAIN WATER PENETRATING INTO THE ROOM OR THE ROOM WILL HOUSE WATER RESISTANT OR WATER PROOF EQUIPMENT, COMPONENTS, OR SUPPLIES.
- 5. THE MAXIMUM SINGLE SECTION SIZE IS 60 WIDE BY 120 HIGH. THE MAXIMUM OVERALL/ASSEMBLED SIZE IS UNLIMITED WIDE (BY USE OF MULTIPLE SECTIONS OF 60 WIDE OR LESS) BY 120 HIGH. SECTIONS/ASSEMBLIÉS MAY BE STACKED VERTICALLY PROVIDED THERE IS SUITABLE STRUCTURAL SUPPORT (DESIGNED AND INSTALLED BY OTHERS) TO SUPPORT ALL LOADS TRANSFERRED FROM THE LOUVER HEAD AND/OR SILL TO THE SUBSTRATE.
- 6. ALL WOOD SUBSTRATE SHALL HAVE SPECIFIC GRAVITY (G)  $\geq$  0.42.
- 7. ALL STEEL STUD SUBSTRATE SHALL BE  $\geq$  16 GA THICK, AND FY  $\geq$  36 KSI.
- 8. ALL STRUCTURAL STEEL SUBSTRATE SHALL BE  $\geq$  12 GA THICK, AND FY  $\geq$  36 KSI.

- 9. ALL CONCRETE SUBSTRATE SHALL BE RATED  $\geq$  2.5 KSI OR  $\geq$  2.22 KSI AS REQUIRED BASED ON FASTENER TYPE USED.
- 10. CONCRETE MASONRY (CMU) SHALL BE ≥ THE FOLLOWING...

FOR ELCO AGGRE-GATOR Ø1/4 FASTENER: 6" WIDE, CMU CONFORMING TO ASTM C90 FILLED WITH 4,747 KSI RATED GROUT.

FOR POWERS WEDGE-BOLT Ø3/8 FASTENER: 6" WIDE, GRADE N, TYPE II, LIGHT/MEDIUM/NORMAL-WEIGHT CMU CONFORMING TO ASTM C90 FILLED WITH 2.5 KSI RATED GROUT.

- 11. ALL ALUMINUM SUBSTRATE SHALL BE  $\geq$  1/8 THICK, AND ALLOWABLE STRESSES  $\geq$  THAT OF 6063-T5.
- 12. LOUVER CONSTRUCTION: HEAD, SILL, JAMBS, AND BLADES ARE FORMED SHEET. BLADE SPACING IS 5.0. BLADES ARE SECURED TO THE JAMBS WITH (3) SCREWS PER BLADE END. HEAD IS SECURED TO THE JAMB WITH (4) BOLTS PER HEAD END. SILL IS SECURED TO THE JAMB WITH (4) BOLTS PER SILL END. BLADE SUPPORT IS SECURED TO BLADES BY (2) RIVETS PER BLADE. SCREENS ARE SECURED TO THE HEAD WITH (2) RIVETS, TO THE BLADE WITH (2) RIVETS, AND TO THE SILL WITH (4) RIVETS. INSULATION IS SECURED WITHIN THE HEAD/BLADE/SILL CAVITY BY THE HEAD/BLADE/SILL SCREEN.
- 13. INSTALLER TO PROVIDE SEPARATION OF DISSIMILAR MATERIALS AS REQUIRED. SEE FL BLDG CODE SECTION 2003.8.4 FOR DETAILS.
- FACTURER DE STATE OF ORIDA CONTINUENT DE STATE OF ORIDA CONTINUENT DE STATE OF ORIDA CONTINUENT DE STATE OF ORIGINALISME 14. ALL ALUMINUM, STAINLESS STEEL (SS), AND PLATED/COATED STEEL PARTS PROVIDED BY MANUFACTURER ARE INHERENTLY CORROSION RESISTANT OR HAVE A CORROSION RESISTANT COATING.
- 15. STEEL/STANLESS STEEL/ALUMINUM PARTS MAY BE MADE OUT OF ALTERNATE ALLOY THAT HAS EQUAL OR GREATER YIELD STRENGTH. PART DIMENSIONS ARE MINIMUMS UNLESS DEFINED OTHERWISE.
- 16. THE INTERNAL ID# SHOWN ON PAGE 14 IS FOR FACTORY USE AND TRACKING PURPOSES ONLY AND MAY BE UPDATED AT ANY TIME. ANY UPDATES WILL NOT ALTER THE ITEM AS DESCRIBED HEREIN.



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